



Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of)	
)	
Implementation of Section 304)	
of the Telecommunications Act)	
of 1996)	CS Docket No. 97-80
)	
Commercial Availability)	
of Navigation Devices)	

Declaration of Colas Overkott

I, Colas Overkott, do hereby declare as follows:

I am Executive Vice President Digital TV of SCM Microsystems, the world's leading producer of renewable conditional access systems. This Declaration is made in response to the Declarations filed by the National Cable and Telecommunications Association (NCTA), filed January 7, 2003, in which it was claimed that reliance on a POD module in set-top boxes would add to their procurement cost by \$72 - \$93 dollars, compared to an implementation of embedded security. Based on SCM's extensive experience with the design and development of the POD module, and our global commercialisation of products using the same form factor, security chips, and electronic and physical interfaces, I wish to inform the FCC that POD modules can be sourced at much lower prices. **On behalf of SCM I am offering firm and immediate quotations for OpenCable POD module procurement at volume prices as low as \$19 per POD. I also believe, based on SCM's and my personal experience, that the cost of host devices, in particular set-top-boxes, will be drastically reduced in an open retail market, where many large consumer electronics companies compete for the consumer's choice, if the present FCC regulations with respect to POD reliance remain in force.**

SCM, headquartered in Fremont, CA, is the world's leading supplier of removable security solutions, and in particular of digital TV "Conditional Access" modules. SCM has been involved in the OpenCable project, with significant input that led to the POD standard, since 1996. We have also been involved in the design of the OpenCable Point of Deployment ("POD") module since 1996. SCM OpenCable POD modules are ready today for commercial deployment. SCM has developed POD modules working according to OpenCable standards with all leading Conditional Access (CA) systems suppliers who have cooperated, including NDS, NagraVision (Kudelski) and Canal+ Technologies. SCM has tested POD modules with corresponding OpenCable Host devices under development by leading manufacturers such as

Panasonic, LG, and Samsung, for introduction as early as Christmas, 2003. Testing has been performed with Motorola and Scientific Atlanta as well in 2002.

SCM, because of its experience and global economies of scale, is in a position to make firm price commitments to supply PODs, meeting all OpenCable specifications, for commercial delivery starting 6-12 weeks from today, at the following firm prices:

- a. Above 100,000 units: \$ 31.00 each
- b. above 1,000,000 units: \$ 27.00 each
- c. above 2,500,000 units: \$ 23.00 each
- d. above 5,000,000 units : \$19.00 each

These prices include the physical module, with all necessary firmware and software, except the “conditional access kernel” software licence and Smart Card (or corresponding chip and battery for such implementations) to be provided by the Conditional Access (CA) provider (costs that apply equally to embedded security solutions).

CA Systems That SCM POD Modules Support

SCM is “CA-system” neutral and will work as a partner of and/or supplier to any security system provider. We have developed Smart Card based POD modules with leading Conditional Access providers such as NDS, NagraVision and Canal + Technologies. We would welcome developing “closed” (no Smart Card) POD modules for the Motorola and Scientific Atlanta encryption systems. The cryptoprocessor chip and / or battery for such systems can be implemented in the module itself. SCM is ready and happy to produce a “closed” POD module for them, at significant volume levels, at the price points quoted above. This should not add any other costs to the POD except the specific chip and battery, which would be correspondingly subtracted from the cost of the host set-top-box, in which they otherwise would be embedded, and some software integration work. We would even consider integrating their chip technology into our next generation chip from 2004, thus further reducing the cost.

Security Levels Provided

A POD implementation can physically be made more secure than an embedded security implementation, because the POD itself may be made more completely tamper resistant than an entire set-top box: SCM manufactures such tamper resistant modules that break if opened; the memory chip and the PCB are glued in epoxy to the casing, and the PCB has specific breaking points. Hackers thus have no way to replace the memory or to read its data. This cannot as readily be achieved in a host device.

POD Impact On The Cost Of The Host Set-Top-Box

The licensing cost for the “CA-kernel” is the same for both removable and embedded security implementations. Similarly, the physical cost for the Smart Card and the corresponding chip and battery is normally identical as well. So factors of software licensing and Smart Card usage do not enter into any estimation of cost differentials between embedded and renewable approaches to security. (The licensing cost for CA kernel of the leading providers with which SCM has licensing contracts typically is between 0 and \$8.00 per unit, depending on the provider chosen by the MSO. Again, this is not a differential cost.)

On the POD host side, very little additional hardware is needed. The interface driver for example is today or will be included in standard set-to-box or integrated digital TV set chip sets as provided by suppliers such as LSI or Broadcom. The real additional item is the 68-pin connector, which is available for less than \$ 0.50 - \$1.0 based on volume purchases. Based directly on SCM's experience with OpenCable and with manufacturers working to implement POD solutions, we thus estimate the cost of the additional POD related costs in the Host to be no more than \$1-2 per unit in total.

Accordingly, for any MSO who today would place an order for 2.5 million or more PODs, the total short term cost differential, compared to embedded security, and accounting for both the POD and the Host, would be about \$24.

With such short term cost differentials for the appliance, I believe that SCM's provision of POD security will provide a *net cost benefit* for MSOs, because replacement of the security module is possible without the necessity of replacing the STB (or, in the case of a POD implementation employing a Smart Card, even the entire POD). As indicated, SCM's implementation of security should be *more* secure than embedded implementations. But even if embedded and renewable security solutions are considered equally vulnerable to attack, such renewable solutions offer much more economical options to the MSO.

Details As To Why SCM Is Able To Provide POD Modules At Such Low Prices

The POD module is comprised of several key components that determine the cost of the Bill of materials to a large degree:

- a. The cryptoprocessor chip
- b. The flash memory on which the firmware and CA-kernel are loaded
- c. The RAM or SDRAM memory
- d. The PCMCIA casing
- e. The 68-pin connector
- f. For Smart card based Conditional Access systems, the Smart Card reader
- g. For non-Smart Card based systems, a second cryptoprocessor chip (which could be integrated into primary chip) plus in certain cases a battery.

The price any POD provider is able to offer is dependent on its experience, volume production, and technology integration, according to the following factors:

- The Bill Of Materials, key components of which are described above, with significant economies of scale;
- The cost of the Software and Firmware, for which the volumes on which to amortize the costs are also critical, as most of the costs involved are for the "fixed" engineering effort (rather than variable production costs);
- The maturity of the design and technology integration into the chip as well as continuing improvements in silicon manufacturing processes ("Moore's Law");
- Manufacturing technologies and automation, also subject to economies of scale;
- Margins depending on sales channel.

Contrary to assertions made in the statements to which this Declaration responds, the PCMCIA form factor, which was implied to account for a large percentage of the purported

\$70+ POD cost, in fact does not have any significant cost impact. SCM buys this PCMCIA casing and connector for less than \$ 2.00. Having produced over 10 million PCMCIA form factor products of all kinds, SCM is highly qualified in evaluating the cost of such products.

The price of the chips (processor and memory) is highly dependent on the design chosen, the degree of integration and on the volumes. SCM designs and develops its own chips for the modules. The current chips are in their fifth generation and are highly integrated. This has provided further silicon level cost reduction;

SCM has produced and delivered more than 6 million DVB Conditional Access Modules (CAMs) in European and Asian markets; this has enabled SCM to achieve significant economies of scale with regard to purchasing and manufacturing. POD modules will benefit from the cost efficiencies achieved for DVB-CAMs because they leverage the same hardware platform (which was developed for both standards), and use the same basic firmware and software solutions. DVB and POD modules use the same cryptoprocessor, the same form factor, and very similar electrical interfaces. Indeed, the POD is based on the "NRSS type B" model, which is based on the DVB module. All hardware related features have been implemented in the original design of the SCM cryptoprocessor, which works for both DVB and POD implementations. The differences between the POD and DVB modules are handled by SCM in the following ways:

- Copy Protection:
 - RSA processing for digital signature: handled through software design;
 - DES scrambling for copy-protect the content: included in our hardware design;
 - Copy protection management: software design.
- Out-Of-Band:
 - Downstream receiver: included in our hardware design;
 - Upstream transmitter: included in our hardware design;
 - Out-Of-Band management: software design.
- Extended Channel (used to communicate between POD and Application in the host): software design.

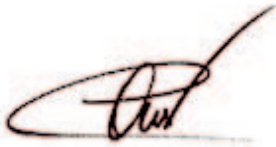
Differential In 2005 And In Longer Term

The prices quoted above are for near term delivery, effective immediately. Based on my own and SCM's experience, I expect these prices to decrease over the next two years, as global volumes increase, and as component and other raw material prices decrease. By January 2005, when the POD reliance obligation will become effective for MSOs, SCM expects to have achieved further efficiencies in integration and cost. We are for example now finalizing the design of our next generation chip that will integrate the flash memory and the cryptoprocessor into the same single chip, thus offering even higher security at lower cost. Present plans for this further integration have been informed by an assumption of support and volume levels prevailing if present FCC regulations, requiring POD reliance by all new hosts after January 1, 2005, remain in place. Under this assumption, **by 2005, the cost of the SCM POD module should be reduced by another \$2-3 per unit.**

While no other manufacturer has yet reached similar volumes, I am convinced that competitors will be able to provide POD modules at similar price levels in a market as big as the USA market will become. This competition between POD suppliers will put further pressure to reduce price levels for the benefit of the consumers and of MSOs, while POD prices should further decrease over time.

Set-top-box prices in an open market, without proprietary embedded solutions, should also decrease significantly -- consumer electronics companies will be in a position to sell the same standardized box across many markets, reaching higher volumes and achieving their own economies of scale. An open market fosters competition between set-top-box manufacturers to the benefit of the consumer. As a comparison, DVB boxes with a Common Interface slot are today available in stores in Europe and Asia at \$100-150, and have recently become available to volume buyers (retailers, pay-TV operators) at less than \$50.

I declare under penalty of perjury of the laws of the United States of America that the foregoing and Appendix are true and accurate.

A handwritten signature in dark ink, appearing to read 'Colas', with a large, sweeping flourish extending upwards and to the right.

Colas Overkott

March 4, 2003

Appendix: About SCM

SCM Microsystems is a leading supplier of solutions that open the Digital World by enabling people to conveniently access digital content and services.

SCM's Security business provides smart card reader technology for the PC platform and conditional access modules for the digital TV platform to OEM customers in the government, financial, enterprise and broadcasting markets worldwide.

SCM's Digital Media and Video business provides hardware, software and silicon solutions for creating, sharing and managing digital media content. Our award winning products are sold in the retail channel under the market leading Dazzle™ brand.

SCM in the Digital TV Market

SCM is the leading supplier of hardware technology known as a Conditional Access Module (CAM) that plugs into an open standards-based set-top box or integrated digital TV set to decrypt television broadcast signals. SCM pioneered CAM technology and remains closely involved in the development of standards for digital TV broadcast security. We were a key architect in the development of the Digital Video broadcasting (DVB) standard used in Europe and adopted in China and in the OpenCable™ standard, developed for the U.S. and now adopted for use in Korea. We have partnerships with many of the world's largest conditional access (CA) providers and have many years' experience in implementing CA software securely. We have shipped over six million CAMs for digital television decryption.

SCM is publicly traded on the Nasdaq market under the symbol "SCMM" and on the Prime Standard of the Frankfurt exchange under the symbol "SMY." The Company operates on a global basis, with corporate headquarters in Fremont, California and European headquarters in Ismaning, Germany.